

### **AMENDMENTS TO THE CLAIMS**

Please amend the claims as follows:

#### **Listing of Claims:**

Claim 1 (Currently Amended): A radiation treatment plan making system comprising:

simulation means for executing radiation treatment simulation for dividing a radiation exposure region and a peripheral region thereof to be irradiated with particle beams into a plurality of unit radiation exposure regions, and then applying particle beams according to a shape of each divided unit radiation exposure region; and

radiation treatment planning means for obtaining a radiation treatment condition for causing flatness, which is a degree of uniformly irradiating the radiation exposure region with a proper dose of particle beams, to be in a desired range, and a dose of particle beams applied to the unit radiation exposure region of the peripheral region to be minimized, in the case where the simulation means executes the radiation treatment simulation, and then making a radiation treatment plan reflecting the radiation treatment condition, wherein

the simulation means divides the radiation exposure region and the peripheral region thereof into unit radiation exposure regions of grid forms whose size is set according to a radiation beam size that is decided by an operation condition, which decides the flatness, of the radiation treatment apparatus, and performs radiation treatment simulation that simulates operation for applying radiation treatment for the unit radiation exposure regions with a pitch of one half of one side of the grid as a step size, and wherein

the radiation treatment planning means determines a degree of contribution made by a dose of radiation on the flatness of radiation exposure region at the unit radiation exposure region simulated on the peripheral region based on the dose of radiation at the radiation beam size simulated by the radiation treatment simulation, and based on the result of this

determination, the radiation treatment planning means obtains an operation condition for the radiation treatment apparatus as the radiation treatment condition in which the peripheral regions that satisfy the desired flatness in the radiation exposure region, and whose number of grid becomes minimum to obtain the flatness.

Claim 2 (Previously Presented): A radiation treatment plan making method comprising:

simulation for dividing a radiation exposure region and a peripheral region thereof to be irradiated with particle beams into a plurality of unit radiation exposure regions, and then executing radiation treatment simulation according to a shape of each divided unit radiation exposure region; and

radiation treatment planning of obtaining a radiation treatment condition for causing flatness, which is a degree of uniformly irradiating the radiation exposure region with a proper dose of particle beams, to be in a desired range, and a dose of particle beams applied to the unit radiation exposure region of the peripheral region to be minimized, in the case where the simulation is executed, and then making a radiation treatment plan reflecting the radiation treatment condition, wherein

in the simulation, the radiation exposure region and the peripheral region thereof are divided into unit radiation exposure regions of grid forms whose size is set according to a radiation beam size that is decided by an operation condition, which decides the flatness, of the radiation treatment apparatus, and radiation treatment simulation that simulates operation for applying radiation treatment for the unit radiation exposure regions is performed with a pitch of one half of one side of the grid as a step size, and wherein

in the radiation treatment planning, a degree of contribution made by a dose of radiation on the flatness of radiation exposure region at the unit radiation exposure region

simulated on the peripheral region based on the dose of radiation at the radiation beam size simulated by the radiation treatment simulation, is determined and based on the result of this determination, in the radiation treatment planning, an operation condition for the radiation treatment apparatus is obtained as the radiation treatment condition in which the peripheral regions that satisfy the desired flatness in the radiation exposure region, and whose number of grid becomes minimum to obtain the flatness.

Claims 3-10 (Cancelled).